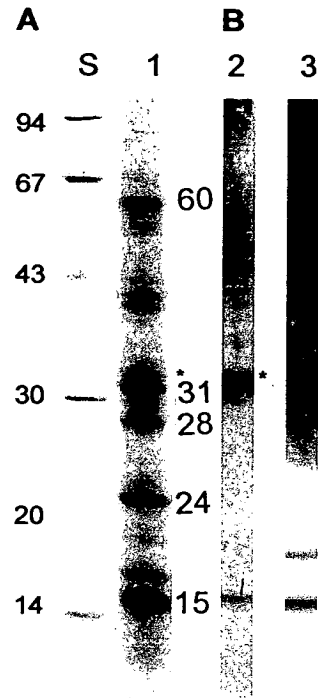


Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669.0050001/LAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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FIG 1



09864291.100901

Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669.0050001/JAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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## FIG 2A

(SEQ ID NO:4)

1 CGGCACGAGGGGCGGCAGGAGGGGGCCTG<sup>1</sup>GGCAGG

36 ATG GCA GTG AAC CAG AGC CAC ACC GAG AGC CGT CGT GGG GCC CTC ATC CCC TCT GGC GAA

1 M A V N Q S H T E S R R G A L I P S G E

96 AGT GTC TTG AAG CAG TGT GAG GAT GTG GAC CTC TGC TTC CTA CAG AAA CCA GTG GAA TCC

21 S V L K Q C E D V D L C F L Q K P V E S

156 TAT CTC TTT AAT GGC ACA AAG AAA GGA ACG TTG TTT CTC ACT TCA TAC CGG GTG GTC TTC

41 Y L F N G T K K G T L F L ~~0~~T S Y R V V F

216 GTG ACT TCA CAC TTA GTC AAT GAC CCC ATG CTT TCT TTT ATG ATG CCG TTT GGC CTG ATG

61 V T S H L V N D P M L S F M M P F G L M

276 AGT GAC TGC ACC ATT GAA CAA CCA ATT TTT GCC CCC AAC TAC ATT AAA GGA ACC ATT CAG

81 S D C T I E Q P I F A P N Y I K G T I Q

336 GCA GCT CCA GGT GGT GGC TGG GAA GGA CAA GCT GTT TTT AAG TTA TCC TTC AGG AAA GGA

101 A A P G G G W E G Q A V F K L S F R K G

396 GGT GCC ATC GAA TTT GCC CAA CTG ATG GTA AAA GCT GCC TCT GCT GCT GCC AGA GGA ATT

121 G A I E F A Q L M V K A A S A A A R G I

456 CCA CTT GGA AGT GTA AAT TAC TGG TTC GAC ACT TCA GGA CTG TAC ATA ATT ACT GTC CCA

141 P L G S V N Y W F D T S G L Y I I T V P

T0600T" T62H9860

Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669.0050001/JAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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## FIG 2B

516 GGG GCT GCA GTG TGC TCC TCA CAG ACA CCT TGT CCA GCA TAT CCA ATT GTG ATC TAT GGA  
 161 G A A V C S S Q T P C P A Y P I V I (Y G

576 CCC CCA CCA CCA GGA TAT ACA GTC CAA CCA GGG GAA TAT GGA ACT CCA CCA GAA GGA TAT  
 181 P P P P G Y) T V Q P G E (Y G T P P E G) (Y  
 A A A A

636 GGA GCC CAA CCA GGG GGA TAT GGA GCC CCA CCT ATG GGA TAT GGA GCC CCG CCT GTG GGA  
 201 G A Q P G G) (Y G A P P M G) (Y G A P P V G)

696 TAT GGA GTC CCA CCT GGG GGA TAT GGA GTC CCA CCT GGG GGA TAT GGA GTC CCA CCT GGG  
 221 (Y G V P P G G) (Y G V P P G G) (Y G V P P G

756 GGA TAT GGA GCC CCA CCT GGG GGA TAT GGA GTC CCA CCT GGG GGA TAT GGT GCC CCA CCT  
 241 G) (Y G A P P G G) (Y G V P P G G) (Y G A P P

816 GGG GGA TAT GGA GCC CCA CCT GCA GGA TAT GGA GCC CCA CCA GCT GGA AAT GAA GCC CTA  
 261 G G) (Y G A P P A G) (Y G A P P A G) ON E A L

876 CCC CCT GCA TAT GAA GCT CCA TCT GCT GGA AAT ACA GCT GCC TCT CAC AGA TCT ATG ACA  
 281 P P A Y E A P S A G N T A A S H R S M T  
 A A A A

936 GCT CAG CAG GAG ACT TCT CTT CCC ACT ACC TCA TCT TCT TAG  
 301 A Q Q E T S L P T T S S S @

**GTCCATTTACCACTTCTCAGAGT<sup>2</sup>**TAAACCTTGAAGACTCACCAAGCAAAGGGCACCCCTAAAACTGAAGTCACAGTAAGAAGG  
 AAGACCCAGGTGCCAGTGGTAGGAGGTGTTCTGTGTGCACCGAGTGGTCTGATCTTCTCCACACACCTGTGAGGTCTGTGCC  
 TCAAAACAGATGAAGGTGAGAAGACGACTCCTGTTCTCAAGGAAGGAAGATGCTTGAAAACAGACTGCAAGCCAACTAGAGAG  
 AGAGAGATGTGAAGTGGCACATAAACAGCTTGGGGATGGAGACTGACTCTCTTAGAAAAACAGGCCTTCTCCCTGCCTCTGA  
 CCTGAGCAGAAAAAGAGAAATCGCTGGAACCAAGAGCTAGGGTCACCTGCTTAGACGCCCTCGATTAAAGCCTGCTTGCTGT  
 TGCATAAAAAAAAAAAAAAA(1413)

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**FIG 3A**

	10	20	30	40	50	60
PT32	MAVNQSHTESRRGALIPSGESVLKQCEDVDLCFLQKPVESYLFNGTKKGTLELTSYRVVF					
	:::.....	....	.:::	. .:::	. .:::	. .:::
WBP2	MALNKNHSEGG-GVIVNNTESILMSYDHVELTFNDMKNVPEAFKGTGGTGYLTPYRVIF					
	10	20	30	40	50	
	70	80	90	100	110	120
PT32	VTSHLVNDPMLSFMMPFGLMSDCTIEQPIFAPNYIKGTIQAAPGGGWEGQAVFKLSFRKG					
	... .:	: :::	::: .:	::: .:	::: .:	::: .:
WBP2	LSKG--KDAHQSFMMPFYLMKDCEIKQPVFGANFIKGIVKAEAGGGWEGSASYKLTFTAG					
	60	70	80	90	100	110
	130	140	150	160	170	
PT32	GAIEFAQLMVKAASAAARG-IPLGSVNYWFDTSGLYIITVPGAAVCSSQTPC					----313
	:::.....	::: .:	. .:::	. .:::	. .:::	::: .:
WBP2	GAIEFGQRMQLVASQASRGEVPNGAYGYPPMPGAYVFPPP---VANGMYPC					----261
	120	130	140	150	160	

(SEQ ID NO:19)

(SEQ ID NO:17)

[illegible]

Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669,0030001/JAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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## FIG 3B

```

      10      20      30      40      50      60
PT32 MAVNQSHTESRRGALIPSGESVLKQCEDVLCFLQKPVESYLFNGTKKGTFLTYSYRVVF
      ..... : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WBPM MAVNQNHVTDRRWAAPHGESLLKKCSEVDLSFPQSPPGSNLFSGTRKRGALFLTYSYRVIF
      10      20      30      40      50      60

      70      80      90      100     110     120
PT32 VTSHLVNDPMLSFMMPFGLMSDCTIEQPIFAPNYIKGTIQAAPGGGWEGQAVFKLSFRKG
      .... : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WBPM VTSRADNDPMFSFTMPFHLMNCTVEQPIFGANYIKGTIQAAPDGGWEGSATFKIVFRKG
      70      80      90      100     110     120

      130     140     150     160     170     180
PT32 GAIEFAQLMVKAASAAARGIPLGSVNYWFDTSGLYIITVPGAAVCSSQTPCPAYPIVIYG
      ..... : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WBPM GAIDFAQLMAKAASAAAGVPLRVASFWMGPLGIYVIT--GDR--NMYAP-QAYQVA-YG
      130     140     150     160     170

      190     200     210     220
PT32 PPPPGYTVQPGEGYGTTPPEGYGAPGGYGAPPMGYGAPPVGYGV-PPG-----
      : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WBPM APPAGYGASPVGYGVPSAGYGAPPAGYGAPPVGYVAPSPGYDVLPPGYGAVRYGSPPLY
      180     190     200     210     220     230

      230     240     250     260
PT32 -----GYGVPPGGYGVPPEGYGAPPGGYGVP-----PGGYGAPPGGYGAPP
      : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WBPM VATPMGYGVPPPGYGPPPVRYGSPPPGYEAPTMEYGAQPPRYGTTMGSGSPPPRYEAPP
      240     250     260     270     280     290

      270     280     290     300     310
PT32 AGYGAPPAGNEALPP-----AYEAPSAGNTAASHRSMTAQ---ETSLPTSSS----
      : : : : : : : : : : : : : : : : : : : : : : : : : : : :
WBPM MGYGTPPSGRESIPPGSRATSVAQEAPPAGSEAGHPMSVAVQNPEFQASFPSTSSSQVHS
      300     310     320     330     340     350

```

PT32 ----- (SEQ ID NO:5)

WBPM PRSKM (SEQ ID NO:18)

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**FIG 4A**

          140       150       160       170       180       190

PT32   AAARGIPLGSVNYWFDTSGLYIIITVPGAAVCSSQTPCPAYPIVIGPPPGYTVQPGEYG  
        :  
WBPH   A-----VIVYGAPPAGYGAPPPGYG

70            80

260        270        280        290        300        310  
**PT32**     **GYGAPPGGYGAPPAGYGAPPAGNEALPPAYEAPSAGNTAASHRSMTAQQETS LPTTSSS**  
          ::::: ::::: :.: . : . : . : . : .. .....  
**WBPH**     **GYGAPPLGYGAPPAGNEGPPAGYRASPA GSGARPQESTAA---QAPENEASLP SASSS**  
         150        160        170        180        190

WBPH QDKEDDSGQPF~~LR~~SAFQCLLECD~~Y~~LIVR (SEQ ID NO:10)  
200 210 220

Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669,0050001/JAG/EEF/RGM; Batch No.: N/A  
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 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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FIG 4B

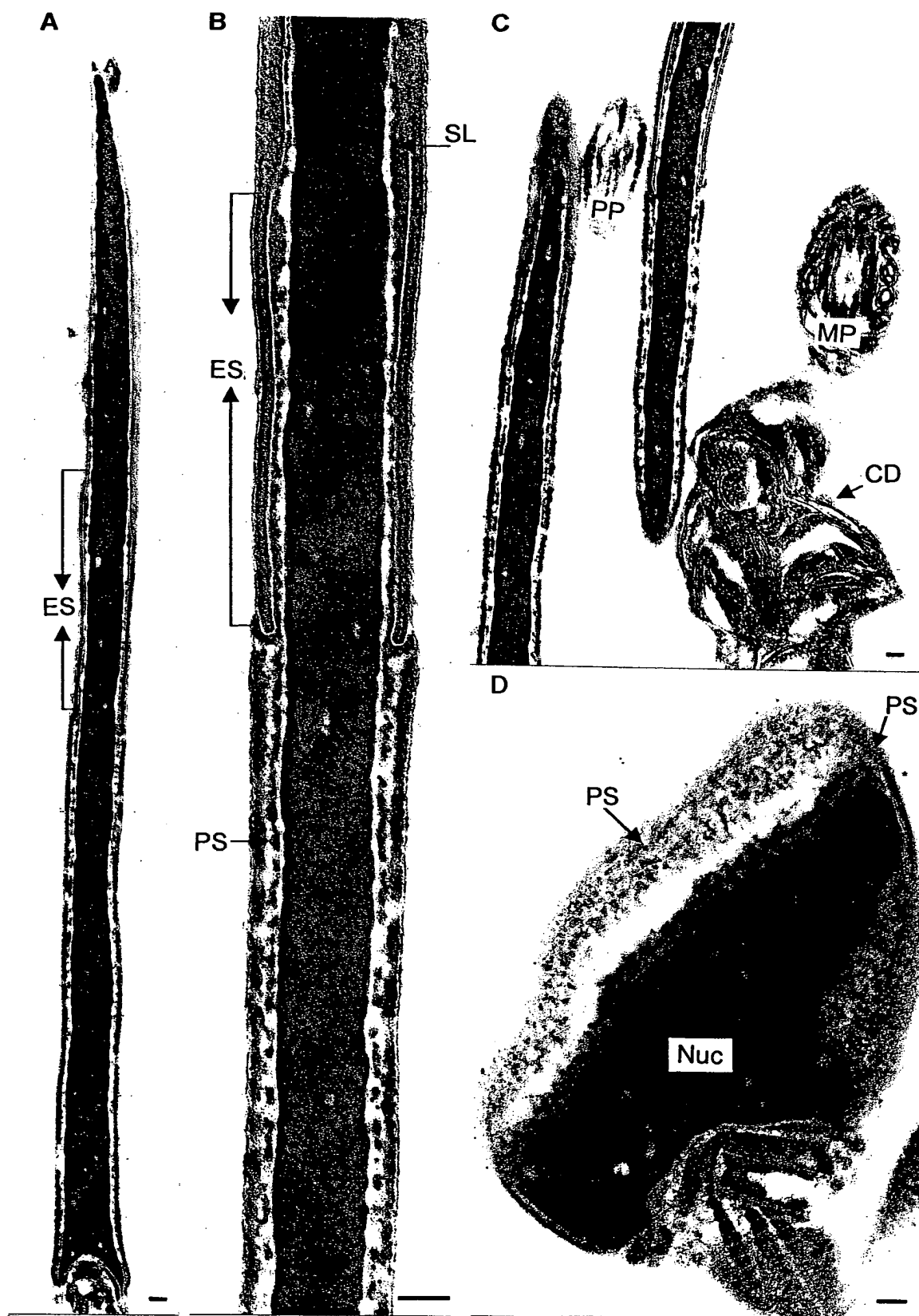
(SEQ ID NO:11) 1 ▶ ATGCCATTGATCTGATGACGAACCTCACTGTTGAACAACCAGTATTTGCTGCAAACCTC  
 (SEQ ID NO:12) 1 M P F D L M T N L T V E Q P V F A A N F  
 61 ATTAAGGGAAGTATTAGGAGCTCCATATGGTGGCTGGGAAGGACAAGCTACTTTTAA  
 21 I K G T I Q A A P Y G G W E G Q A T F K  
 121 TTAGTCTTCAGAAATGGAGATGCCATTGAATTTGCCAGTTGATGGTGAAAGCTGCCTCT  
 41 L V F R N G D A I E F A Q L M V K A A S  
 181 GCTGTGCCCCGAGGATTTCCACTTAGAACCTTAAATGACTGGTTCAGCTCTATGGGAATT  
 61 A V A R G F P L R T L N D W F S S M G I  
 241 TATGTAATTACTGGGGAAGGAATATGTGCACTCCACAGATGCCTTGTTCAGTTATTGTC  
 81 Y V I T G E G N M C T P Q M P C S V I V  
 301 TATGGGGCCCCACCTGCAGGATATGGAGCCCCACCTCCCGGATACGGAGCCCCACCTGCA  
 101 [Y G A P P A G][Y G A P P P G][Y G A P P A  
 361 GGATATGGAGCCCAACCCGTAGGAAATGAAGGCCCGCTGTGGGATACAGAGCCTCACCT  
 121 G] Y G A Q P V G N E G P P V G Y R A S P  
 421 GTGCGATATGGAGCCCCACCTCTTGATACGGAGCCCCACCTGCAGGATATGGAGCCCCA  
 141 V R [Y G A P P L G][Y G A P P A G][Y G A P  
 481 CCTCTAGGATATGGAGCCCCACCTCTTGATATGGAACCCACCTCTCGGATATGGAGCC  
 161 P L G][Y G A P P L G][Y G T P P L G][Y G A  
 541 CCACCTCTCGGATATGGAGCCCCACCTGCAGGAAATGAAGGCCCGCTGCGGGATACAGA  
 181 P P L G][Y G A P P A G] N E G P P A G Y R  
 601 GCCTCACCTGCTGGATCAGGAGCCAGGCCTCAGGAATCTACAGCAGCCAGGCTCCTGAA  
 201 A S P A G S G A R P Q E S T A A Q A P E  
 661 AACGAGGCTTCTCTCCCTCTGCCTCCTCTCTCAGGTCCATTCTTAACCTTCTAAGATG  
 221 N E A S L P S A S S S Q V H S ●●●  
 TAAACCTGAAGACTCACCAAGCAAAGAGGTACCCTAAAATTGAAGTCAGGATAAGGAGG  
 ACGACTCAGCTTAGAGTCATTGATTGATCTGCATTGTGAAAATTAGGAAACCAGATGCTC  
 CCATGTTCTCAAGGACGACCTTTCTTAAGGAAGTCAGTACGTGGCAACAGTGATGAGAG  
 GAAGAGAGGAGACTCAACCAACTAGAGCAGGATAAGGTTTCCCTTGTTTCAGCTTTTC  
 AGTGTCTGCTGGAATGTGATGATTACCTCATTGTCAGGTAG 42

09864291.100901

Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669.0050001/JAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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FIG 5



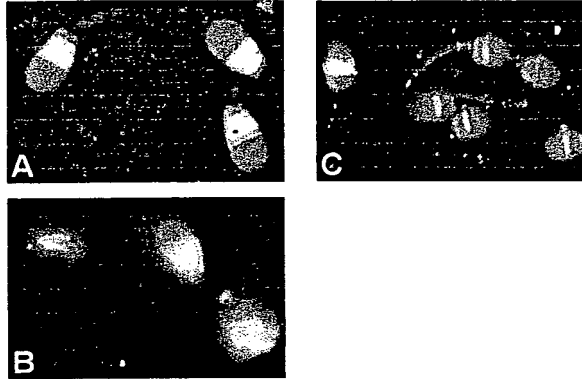
09864291.0090



Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
Dkt. No. 1669.0050001/JAG/EEF/RGM; Batch No.: N/A  
Inventors: OKO et al.; Tel: 202/371-2600  
Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
Cytoplasmic c-Yes, and Uses Thereof

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FIG 6

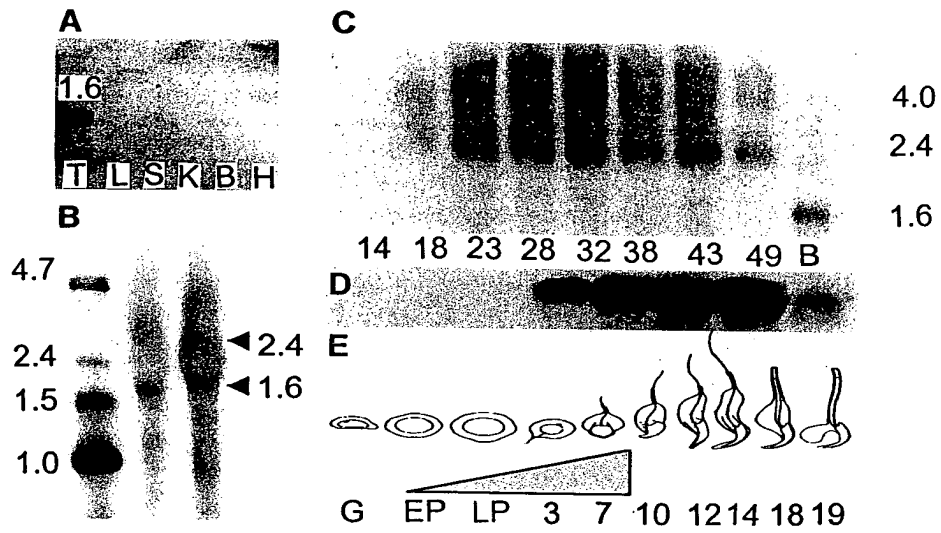


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Appl. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669,0050001/LAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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FIG 7



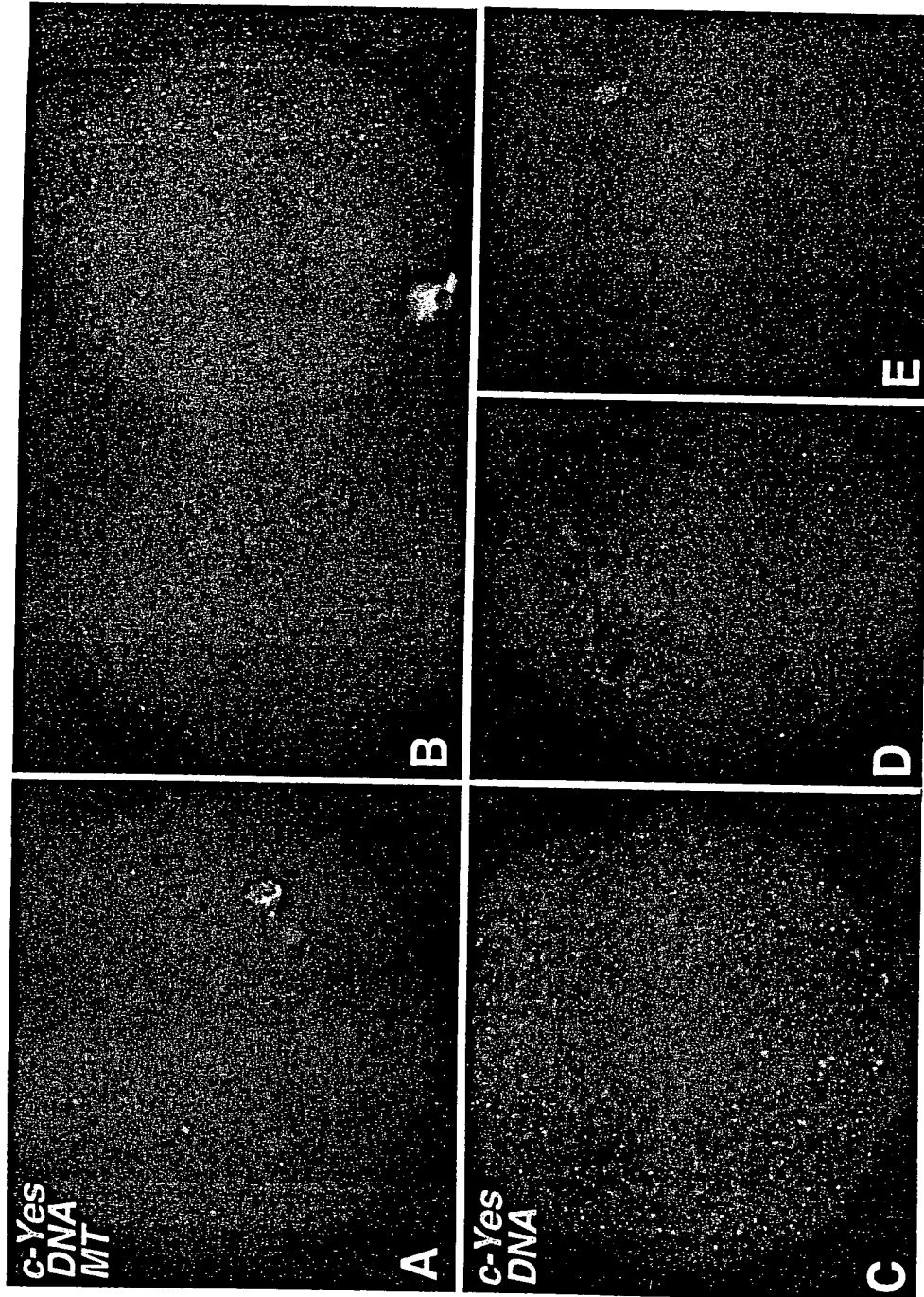
09864291.100901

Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669.0050001/JAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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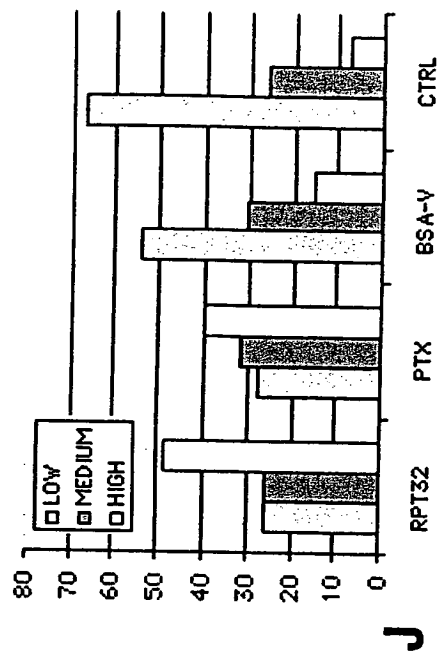
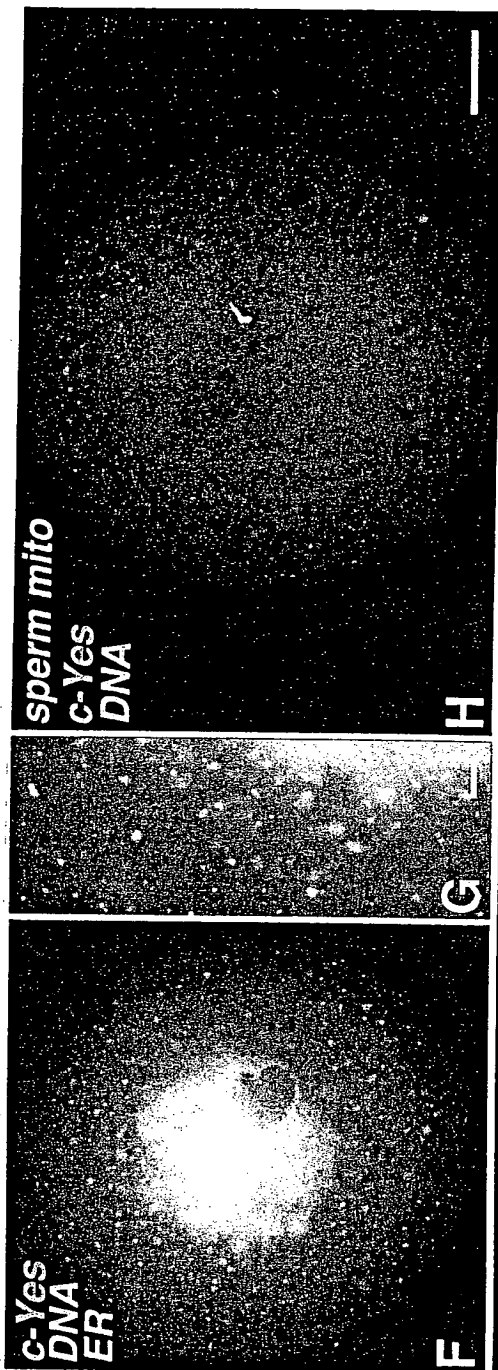
FIG 8 - I



Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669.0050001/JAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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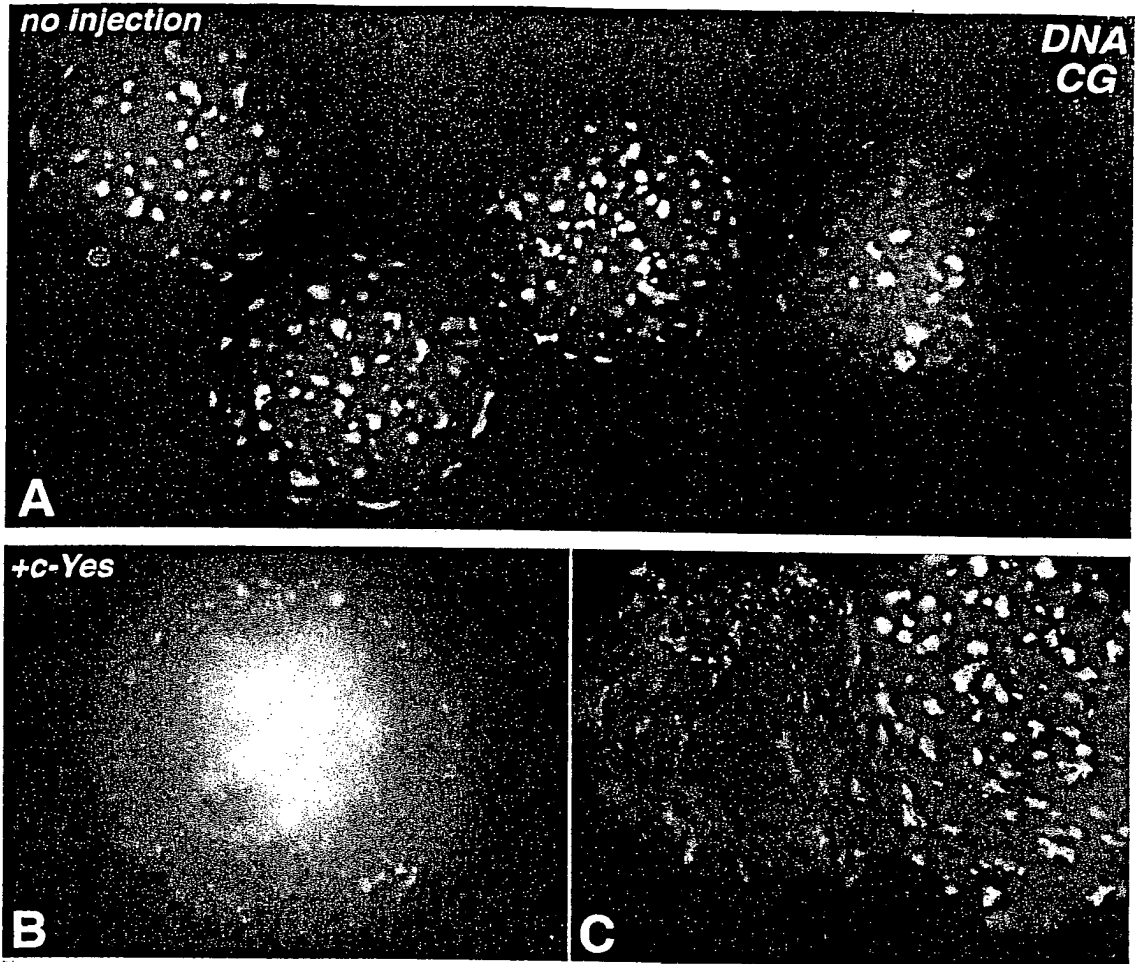
FIG 8 - II



Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669.0050001/JAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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FIG 9 - I

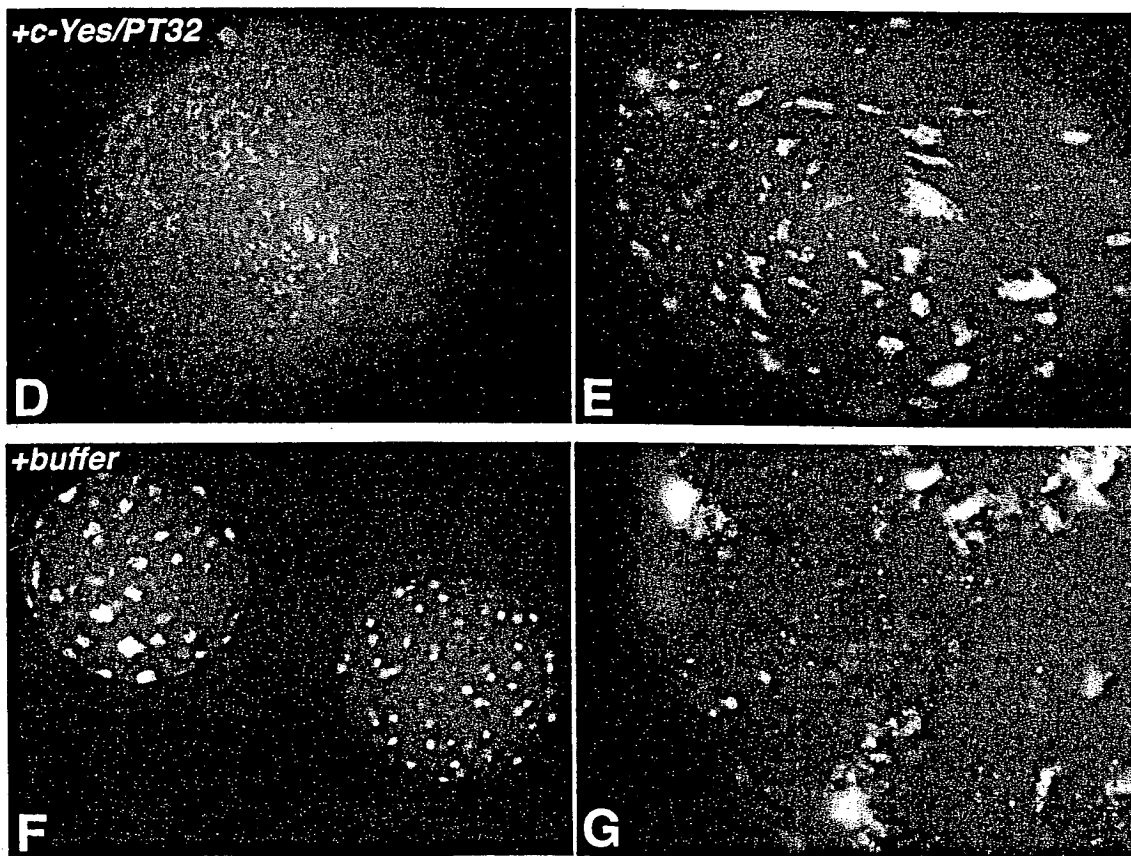


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Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669.0050001/JAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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FIG 9 - II



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Appl. No. 09/864,291; Group Art Unit: To Be Assigned  
 Dkt. No. 1669.0050001/JAG/EEF/RGM; Batch No.: N/A  
 Inventors: OKO et al.; Tel: 202/371-2600  
 Title: PT32 Sperm Protein, Sperm c-Yes, Oocyte  
 Cytoplasmic c-Yes, and Uses Thereof

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FIG 10

1 mgclkskedk gpamkyrtnd tpepishvs hygsdssgat qspalkgsav nfnshsmtpf  
 61 ggpsgmtpfq gasssfsavp spypstltgg vtvfvalydy earttddlsf kkgerfqiin  
 121 ntegdwwear siatgktgyi psnyvapads iqaeewyfgk mgrkdaerll lnpqnqrglf  
 181 lvresettkg ayslsirdwd evrgdnvkhk kirkldnggy yittraqfes lqklvkhyre  
 241 hadglchklt tvcptvkpqt qglakdawe1 preslrlevk lgqgcfgeww mgtwngttkv  
 301 aiktikpgtm mpeaflqeaq imkklrhdkl vplyavvsee piyivtefmt kgsllldflke  
 361 gegkflklpq lvdmaaquad gmayiermny ihrdlraani lvgdnlvcki adfglarlie  
 421 dneytarqga kfpikwtape aalygrftik sdvwsfgill telvtkgrvp ypgmavnrevl  
 481 eqvergyrmp cpqgcpeslh elmkicwkdd pderptfeyl qsfledyfta tepqyqpqdn  
 541 1 (SEQ ID NO:20)

09864291.100901